Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method of modulating or demodulating a communication signal using differential quadrature phase shift keying (DQPSK), the method comprising:

upon receiving an inbound communication signal, demodulating the inbound communication signal by:

obtaining Pi/4 differential quadrature phase shift keying (DQPSK) symbols;

translating the Pi/4 DQPSK symbols into quadrature phase shift keying (QPSK) symbols; and

mapping the QPSK symbols to a pair of bits; and

upon initiating an outbound communication signal, modulating the outbound communication signal by:

obtaining communication bits indicative of the outbound communication signal;

translating the communication bits to three communication bits; and

mapping the translated bits to DQPSK symbols.

2. (Currently Amended) The method of claim 1, wherein the ~~step of~~ translating the communication bits comprises performing an XOR operation.

3. (Currently Amended) The method of claim 1, wherein ~~the step of~~ translating the Pi/4 DQPSK symbols into quadrature phase shift keying (QPSK) symbols ~~includes~~ comprises utilizing the formula:

$$S_{QPSK}(t) = (\text{real}(S(t)) + \text{imag}(S(t))) * (\text{real}(S(t-1)) - \text{imag}(S(t-1))),$$

where S(t) is a DQPSK symbol at time t, and $S_{QPSK}(t)$ is a QPSK symbol at time t.

4. (Original) The method of claim 3, wherein a phase of a first symbol is not known and a phase of a predecessor symbol is known.

5. (Currently Amended) The method of claim 1, wherein ~~the step of~~ mapping the QPSK symbols to a pair of bits comprises utilizing a lookup table to map the QPSK symbols to a pair of bits.

6. (Currently Amended) The method of claim 5, wherein the lookup table includes the following values stored therein:

~~X~~	~~Y~~	~~Theta~~
~~0~~	~~0~~	~~Pi / 4~~
~~0~~	~~1~~	~~3 Pi / 4~~
~~1~~	~~0~~	~~-3 Pi / 4~~
~~1~~	~~1~~	~~- Pi / 4~~

QPSK Symbol Input	Two Bits Output
Pi/4	00
3 Pi/4	01
-3 Pi/4	10
-Pi/4	11

7. (Currently Amended) The method of claim 1, wherein ~~the step of~~ translating the communication bits to three communication bits ~~includes~~ comprises providing two variable bits and a hardwired ~~one~~ bit to an adder.

8. (Currently Amended) The method of claim 1, wherein the step of mapping the translated bits to DQPSK symbols ~~includes an 8 phase shift keying (PSK) modulation~~ comprises using a lookup table.

9. (Original) The method of claim 1, wherein modulating does not require a complex multiplication operation.

10. (Original) A Pi/4 differential quadrature phase shift keying (DQPSK) modem, the modem comprising:

a processing unit; and

a storage device coupled to the processing unit and having stored there information for configuring the processing unit to:

obtain Pi/4 differential quadrature phase shift keying (DQPSK) symbols;

translate the Pi/4 DQPSK symbols into quadrature phase shift keying (QPSK) symbols;

map the QPSK symbols to a pair of bits;

obtain communication bits indicative of the outbound communication signal;

translate the communication bits to three communication bits; and

map the translated bits to DQPSK symbols.

11. (Currently Amended) The modem of claim 10, wherein the translation of the communication bits to three communication bits ~~includes~~ comprises performing an XOR operation.

12. (Currently Amended) The modem of claim 10, wherein the mapping of QPSK symbols to a pair of bits performed by the processing unit ~~includes~~ comprises utilizing a lookup table to map the QPSK symbols to a pair of bits.

13. (Currently Amended) The modem of claim 10, wherein the processing unit translates the Pi/4 DQPSK symbols into quadrature phase shift keying (QPSK) symbols ~~for demodulation~~ by using the formula:

$$S_{QPSK}(t) = (real(S(t)) + imag(S(t))) * (real(S(t-1)) - imag(S(t-1))),$$

where S(t) is a DQPSK symbol at time t, and $S_{QPSK}(t)$ is a QPSK symbol at time t.

14. (Currently Amended) The modem of claim 10, wherein the storage device ~~includes~~ comprises ~~a~~ look up tables having the following values stored therein:

QPSK Symbol Input	Two Bits Output
Pi / 4	00
3 Pi / 4	01
- 3 Pi / 4	10
- Pi / 4	11

and

Bit Combination	Real	Imaginary
000	0	1
001	-0.707	0.707
010	-1	0
011	-0.707	-0.707
100	0	-1
101	0.707	-0.707
110	1	0
111	0.707	0.707

15. (Original) A system which modulates or demodulates a communication signal using differential quadrature phase shift keying (DQPSK), the system comprising:

means for obtaining Pi/4 differential quadrature phase shift keying (DQPSK) symbols;

means for translating the Pi/4 DQPSK symbols into quadrature phase shift keying (QPSK) symbols;

means for mapping the QPSK symbols to a pair of bits;

means for obtaining communication bits indicative of the outbound communication signal;

means for translating the communication bits to three communication bits; and

means for mapping the translated bits to DQPSK symbols.

16. (Original) The system of claim 15, wherein the means for translating the communication bits to three communication bits does not involve a complex multiplication operation.

17. (Currently Amended) The system of claim 15, wherein the means for translating the communication bits to three communication bits ~~includes~~ comprises means for performing an XOR operation.

18. (Currently Amended) The system of claim 15, wherein the means for translating the Pi/4 DQPSK symbols into quadrature phase shift keying (QPSK) symbols ~~includes~~ comprises utilizing the formula:

$$S_{QPSK}(t) = (\text{real}(S(t)) + \text{imag}(S(t))) * (\text{real}(S(t-1)) - \text{imag}(S(t-1))),$$

where S(t) is a DQPSK symbol at time t, and $S_{QPSK}(t)$ is a QPSK symbol at time t.

19. (Original) The system of claim 18, wherein a phase of a first symbol is not known and a phase of a predecessor symbol is known.

20. (Original) The system of claim 15, wherein the means for mapping the QPSK symbols to a pair of bits comprises means for utilizing a lookup table to map the QPSK symbols to a pair of bits.

21. (Currently Amended) A method of modulation using differential quadrature phase shift keying (DQPSK), the method comprising:

obtaining two communication bits indicative of the outbound communication signal;

translating the two communication bits to three communication bits; and

mapping the translated bits to DQPSK symbols~~.~~ wherein each DQPSK symbol is represented by a single in-phase component and a single quadrature phase component.

22. (Original) A method of demodulation using differential quadrature phase shift keying (DQPSK), the method comprising:

obtaining Pi/4 differential quadrature phase shift keying (DQPSK) symbols;

translating the Pi/4 DQPSK symbols into quadrature phase shift keying (QPSK) symbols; and

mapping the QPSK symbols to a pair of bits.